



SAMUT-SARI

The quarterly newsletter of the Philippines-Netherlands Biodiversity Research Programme for Development in Mindanao



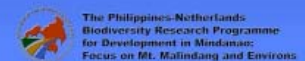
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BRP holds international conference on biodiversity research for development



Conference-Workshop Towards a Regional Cooperation on Biodiversity Research-for-Development

Discovery Suites, Ortigas Center, Pasig City
28-29 November 2005



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November 28-29, 2005 – More than 60 representatives from local, regional and Dutch institutions, who are in one way or another involve in biodiversity research gathered at Discovery Suites, Ortigas Center, Metro Manila to participate in the SEARCA-BRP sponsored Regional Conference-Workshop “Towards a Regional Cooperation on Biodiversity Research-for-Development”.

The event was hosted by the Biodiversity Research Programme (BRP), a project of the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) funded by the Netherlands Ministry for Development Cooperation (DGIS), as part of the program’s effort to share the results of and the lessons drawn from the conduct of its 19 research projects on biodiversity conservation in Mt. Malindang, Misamis Occidental, southern Mindanao. It brought together stakeholders in biodiversity

research such as scientists and researchers, policymakers, members of the government and non-government organizations, and donor communities to determine a possible regional collaboration as well as potential regional research agenda and priorities for biodiversity conservation in the Philippines, Lao-PDR, Vietnam, Cambodia, and Indonesia through a consultative process. From this research agenda, a collaborative regional biodiversity research programme was envisioned to be conceptualized and developed for funding.

The presentation of five country papers detailing the current state of biodiversity in each country served as one of the highlights of the conference. The paper presentations centered on the number of threatened, endangered, and newly discovered species; the ineffective implementation of policies

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Filipino, Dutch researchers discuss N-S collaboration on biodiversity research

The Biodiversity Research Programme (BRP) conducted a seminar on *Biodiversity and Economic Development in SE Asia (A SE Asian Initiative): Lessons Learned from Demand Driven Research* on 15 December 2005 in the Hague, the Netherlands.

The seminar served as the venue to discuss the future perspective of biodiversity research-for-development with the support and involvement of the Netherlands,

Director of Forestry Manpower Development (FMD) Consultants, Dr. Perry S. Ong, Chair of JPC and Associate Professor of Biology at the University of the Philippines Diliman, Dr. Paul Hillegers, BRP Consultant, Dr. Erik de Ruyter van Steveninck, BRP research collaborator from UNESCO-IHE, and Dr. Gil C. Saguiguit, Jr., JPC member and SEARCA Deputy Director for Administration.

The seminar was attended by representatives from the Netherlands Development Assistance Research Council (RAWOO), the Netherlands Ministry of Agriculture, Nature and Food Quality (LNV), Policy and Operations Evaluation Department (IOB) of the Netherlands Ministry of Foreign Affairs, and researchers from UNESCO-IHE, The Netherlands Museum of Natural History, Nationaal Herbarium Nederland-Leiden, Centre of Environmental Science (CML), and Wageningen University and Research Centre (WUR).

The BRP-Support and Liaison Office (SLO) hosted by ETC Foundation in the Netherlands facilitated the activity. •



Participants answer the questions, "Which framework for a SE Asian regional research programme on biodiversity for development has emerged?" and "How can the Netherlands be involved in this initiative?"

and the roles of Dutch institutions in relation to other actors in this regional initiative of joint research, capacity building and resource mobilization.

As a background, a major agreement in the SEARCA BRP-organized conference held two weeks earlier was to pursue a regional collaboration on biodiversity research-for-development. The Philippine-Netherlands cooperation developed under the BRP could stimulate the design and implementation of such a regional cooperation, by sharing its experiences with demand driven, participatory and interdisciplinary research.

The presentations focused on the research results, achievements and lessons learned in the implementation of the BRP, as well as the highlights and agreements made in the conference. Paper presentors were Dr. Marc Lammerink, Vice Chair of the BRP Joint Programme Committee (JPC) and

JPC holds 10th meeting

The 10th meeting of the Joint Programme Committee (JPC) was held on 14-16 December 2005 in the Hague, the Netherlands.

The JPC is the governing body of the BRP responsible for formulating general policies and guidelines for the Programme. It is composed of representatives from the Philippines and the Netherlands. It is chaired by Dr. Perry S. Ong, Associate Professor at the Institute of Biology, University of the Philippines Diliman. Other members are Dr. Victor B. Amoroso, Director of Research at Central Mindanao University, Dr. Gil C. Saguiguit, Jr., SEARCA Deputy Director for Administration, Dr. Marc Lammerink, Director of Forestry Manpower Development (FMD) Consultants, Dr. Leontine Visser, Chair of the Department of Rural Development

continued on next page

BRP, SUCs conduct seminars on Mt. Malindang biodiversity

As the BRP draws to a close, exit seminars aimed at disseminating the research results of the various studies implemented under the BRP were conducted during the period of 22 September - 4 October 2005 at Central Mindanao University (CMU), Musuan, Bukidnon, Mindanao State University – Iligan Institute of Technology (MSU-IIT), Iligan City, University of Southeastern Philippines (USEP), Davao City, and Sangguniang Panlalawigan Session Hall, Davao del Sur.

The seminars provided the opportunity for the researchers to share their experiences, accomplishments and lessons learned during the conduct of research and their participation in the programme. Faculty members, researchers and students of participating universities and other academic institutions in the region, representatives from the Department of Environment and Natural Resources (DENR) and other government-line agencies, and nongovernment organizations attended the seminars.

Local government officials of the Province of Davao del Sur, headed by Vice Governor Romualdo C. Garcia challenged the participants to help maintain balance on the protection and utilization of biodiversity, as well as to actively participate in various undertakings for the conservation of the environment. Participating universities also recognized the efforts that have been done by the Programme. They hope to sustain what has been started and to replicate such undertaking in other areas in the country.

The BRP has implemented 19 research projects within its five-year grant period (2000-2005) aimed at producing data and information focused on the landscape interactions and interconnectivity in Mt. Malindang environs, Misamis Occidental, southern Philippines. *

JPC holds...from page 2

Sociology at Wageningen University and Research Centre, and Dr. Bram Huijsman, Director of International Agricultural Centre (IAC) and North-South Centre.

The 10th meeting discussed the status of programme activities in the last year of its implementation. The JPC and SEARCA Director Arsenio M. Balisacan

Researcher presents status of Philippine biodiversity in international conference

Dr. Victor B. Amoroso, BRP researcher and Director of Research at Central Mindanao University participated in the First DIVERSITAS Open Science Conference on 9-12 November 2005 at Hotel Mision de Los Angeles, Oaxaca, Mexico. Sixty countries participated.

Dr. Amoroso presented posters on Philippine and Mindanao biodiversity based on his involvement in the priority setting workshops on Philippine biodiversity with Conservation International, and in various research activities, one of which is BRP. Meanwhile, the paper presentation focused on the BRP research, "Participatory Floral Diversity and Assessment in Malindang Natural Park, Mindanao, Philippines". The paper highlighted the results of the study as well as the participatory nature of the BRP. He was also invited to attend the DIVERSITAS National Committee Meeting, and appointed as the point person in the Philippines.

DIVERSITAS is an international, nongovernment programme established by the International Council for Science (ICSU), International Union of Biological Sciences (IUBS), International Union of Microbiological Societies (IUMS), Scientific Committee on Problems of the Environment (SCOPE), and United Nations Educational, Scientific and Cultural Organization (UNESCO). It aimed to: (1) promote an integrative biodiversity science, linking biological, ecological and social disciplines to produce socially relevant new knowledge, and (2) provide the scientific basis for the conservation and sustainable use of biodiversity. *

also met with Ms. Caroline Wiedenhof and Mr. Ron Havinga of the Netherlands Ministry for Development Cooperation (DGIS/DCO) to discuss the request for a budget-neutral extension to formally turnover programme outputs and wrap up remaining programme activities. *

BRP research papers sweep awards at 17th NOMCARRD R&D symposium

Research papers highlighting BRP research results garnered awards in all categories during the 17th Northern Mindanao Consortium in Agricultural Resources Research and Development (NOMCARRD) Research and Development Symposium held on 4-5 August 2005 at Misamis Oriental State College of Agricultural Technology (MOSACAT), Claveria, Misamis Oriental.

Research Category

- 1st place - Assessment of Soil Properties and Ecological Diversity in Mt. Malindang Range. Boniao, R.D., *et al.*, Mindanao State University (MSU)-Naawan
- 2nd place - Assessment of Seagrass and Seaweed Meadows and Associated Fauna in the Coastal Barangays of Northeastern Mt. Malindang. Uy, W.H., *et al.*, MSU-Naawan
- 3rd place - Conserving the Diversity of Selected Arthropods in Cabbage-Growing Areas in Mt. Malindang, Misamis Occidental through Participatory Integrated Pest Management. Ledres, L.B. *et al.*, Central Mindanao University (CMU)
- 4th place - Diversity and Assessment of Plants in the Northern Landscape of Malindang Range, Misamis Occidental. Amoroso, V.B., *et al.*, CMU
- 5th place - Conservation and Utilization of Endemic, Rare and Economically Important Plants

in Three Barangays of Don Victoriano, Misamis Occidental. Amoroso, C.B. *et al.*, CMU

Development Category

- 3rd place - Be Rich Overnight or Remain Poor for Life on the Sea's Bounty? Roxas, A.T., MSU-Iligan Institute of Technology (IIT)

Dissertation Category

Best Paper - Bryophyte Flora of Mt. Malindang, Misamis Occidental, Philippines. Azuelo, A.G., CMU

Poster Category

- 2nd place - Distribution of Land Snails in Mt. Malindang, Misamis Occidental, Philippines. Calumba, H.A., *et al.*, MSU-IIT
- 3rd place - Participatory Assessment of Herpetofauna in Malindang Range, Philippines. Nuñez, O.M., *et al.*, MSU-IIT

NOMCARRD undertakes research and development in agriculture, fisheries, forestry and natural resources in Northern Mindanao. It is the regional arm of the National Agriculture and Resources Research and Development Network (NARRDN) under the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD). •

Lessons for natural resources...from page 6

removing the trees will result to the disappearance of these organisms and eventually, disturbance of the ecosystem.

The two scenarios above can serve as important lessons on how forest areas in the Philippines can be managed, especially areas high in biodiversity. The management of Swedish forests for ecological conservation shows that even dead trees are important for maintaining ecological balance. This is very significant in the light of the current practice by some units of the Department of Environment and Natural Resources (DENR) allowing the removal of "drop logs" (trees that have fallen due to natural causes) from areas of the forest where cutting of trees is prohibited.

The above situation is particularly true in Mt. Malindang, where the people are allowed to take from the forest trees that fall due to natural causes, such as typhoons. The negative effect on biodiversity of the removal of drop logs from the forest apparently has not been considered.

I hope that the lessons from the symposium can be applied to local situations, which I believe is a great challenge. This will entail effective information campaign (to ensure the understanding and cooperation of all stakeholders), and also coordinated participation of various agencies, including the DENR and the LGUs. Furthermore, the immediate livelihood concerns of the local communities will have to be addressed. •

BRP takes part in the preparation of the country's 3rd National Report on Biodiversity

Dr. Mariliza V. Ticsay, National Support Secretariat (NSS) Coordinator participated in a thematic consultation workshop on the Preparation of the Third National Report on Biodiversity (3NR) on 11-12 October 2005 at Splash Mountain Resort, Los Baños, Laguna. Other participants came from government agencies, nongovernment organizations, and multistakeholder groups concerned with biodiversity conservation.

The workshop focused on the identification of various activities/initiatives of the different stakeholders/participating institutions for the seven thematic work programs of the Convention on Biological Diversity (CBD), namely: (1) agricultural biodiversity; (2) biodiversity of inland waters; (3) biodiversity of dry and subhumid lands; (4) forest biodiversity; (5) marine and coastal biodiversity; (6) mountain biodiversity; and (7) island biodiversity.

The Preparation of the Third National Report on Biodiversity, implemented by the Protected Areas and Wildlife Bureau (PAWB) is funded by the Global Environment Facility – United Nations Development Programme (UNDP-GEF). This report is one of the country's commitments to the CBD. The Philippines signed the UN CBD in 1992 during the Earth Summit in Rio de Janeiro, Brazil and ratified it on October 8, 1993. Since then, the country has been taking measures in fulfilling its commitments to the CBD. These commitments are: (1) to conserve and sustainably use biodiversity; (2) to develop a

national biodiversity strategies and action plans for environment and development; (3) to identify and monitor the important components of biological diversity that need to be conserved and used sustainably; (4) to establish protected areas; (5) to prevent the intro of, control, and or eradicate alien species that could threaten ecosystems, habitats or species; (6) to control the risks posed by organisms modified by biotechnology; (7) to educate people and raise awareness about the importance of biological diversity and the need to conserve it; (8) to report on how the country is meeting the biodiversity goals; and (9) to promote public participation, particularly when it comes to assessing the environmental impacts of development projects that threaten biodiversity.

The 3NR shall present the accomplishments of the various biodiversity programs and projects in the country in relation to the National Biodiversity Strategy and Action Plan (NBSAP). The NBSAP sets forth the concrete policy and management measures for developing programs and projects that would address pressing issues and concerns in biodiversity conservation and management.

A National Consultation for the 3NR will be conducted on 20 January 2006 at the Bureau of Soils and Water Management Conference Hall, Quezon City. This will be the last consultation before the DENR-PAWB submits the technical report to the CBD. ▪

and laws created for biodiversity conservation; the need for more research and capacity building on biodiversity; and the need to strengthen institutions that conduct biodiversity conservation projects. Paper presentors from the Philippines, Lao-PDR, Vietnam, Cambodia, and Indonesia include Dr. Perry S. Ong (University of the Philippines Diliman) and Dr. Gil C. Saguiguit, Jr. (SEARCA), Dr. Sengdeane Wayakone (National University of Lao-PDR), Dr. Le Xuan Canh (Institute of Ecology and Biological Resources), Mr. Chay Kong Krui (Royal University of Agriculture), and Dr. Linawati Hardjito (Bogor Agricultural University), respectively. Dr. Percy E. Sajise, Regional Director for Asia, Pacific and the Oceania of the International Plant Genetic Resources Institute (IPGRI) in his keynote speech on "Biodiversity Research for Sustainable Development:

Can it be achieved?" highlighted that a new paradigm of research for development rather than the traditional research and development, can link biodiversity with poverty alleviation and environmental protection to enhance the attainment of sustainable development.

At the end of the conference-workshop, an agreement was reached among the regional partners to form a working group, to be assisted by SEARCA, whose main task is to draft a proposal for a regional collaboration through consultation with the different Southeast Asian countries. A Manila Declaration, to be signed by the participants of the conference-workshop, would also be drafted stating the willingness of each to support and pursue a regional collaboration for biodiversity research-for-development. ▪

"While governments should play a leadership role, other sectors of society need to be actively involved. After all, it is the choices and actions of billions of individuals that will determine whether or not biodiversity is conserved and used sustainably."

<http://www.biodiv.org>

*BRP holds...from
page 1*



by Aurelia
Luzviminda V.
Gomez

Lessons for natural resources conservation in Mindanao: Insights from the ISSRM 2005

I had the opportunity to attend and participate in the 11th International Symposium on Society and Resource Management (ISSRM 2005) held at the Campus Östersund of Mid Sweden University on 16-19 June 2005. It was organized by the European Tourism Research Institute (ETOUR), Mid Sweden University, and Fjäll Mistra (The Swedish Mountain Mistra Programme), with the theme “from knowledge to management: balancing resource extraction, protection and experiences”.

Nine parallel sessions ran simultaneously, requiring us to review the program and book of abstracts in order to maximize our participation. I also tried to attend as many sessions as possible to absorb as much information as I could. The sessions I attended focused on local participation, indigenous peoples and natural resources, resource management and land use controversies.

The conference provided an excellent venue for sharing our experiences as researchers. I gained very significant professional and cultural insights from the sessions and the field trip I attended.

The conference was attended by more than 400 participants from 35 countries, and the participants were mostly Europeans. Being the only participant from the Philippines, I was cautious not to create any bad impression for the country. My participation placed the Philippines side by side with countries that have recognized the importance of local participation in nature conservation.

An important realization for me was that regardless of cultural background and political structure, the effective conservation of natural resources can only be possible if the communities affected are given the

chance to have an active role in the decision-making process. Presentations on local participation generally showed that natural resource conservation was better where there was genuine partnership in decision-making between the government and the local communities, compared to areas where representatives from the government merely informed or consulted local communities. The roles of the various sectors of society differ; even children can have an active role in natural resource conservation, for as long as they are considered as real partners in conservation. This was shown by a number of presentations from various countries, including Australia, Sweden, South Africa, Norway and Nepal.

A glimpse of the Swedish way of managing forests was also an eye opener for many participants. Sweden is a major producer and exporter of wood and wood products. Because of the importance of forests in the Swedish economy, there is one agency that functions as forest owner and manager. This agency oversees basically everything about the Swedish forests, which contain only two kinds of trees, namely spruce and pine.

There are three general divisions of Swedish forests: an area allotted for berry picking and hunting, an area used for wood production, and the area reserved for ecological conservation. Thus, the areas specified for a specific purpose cannot be utilized otherwise. For example, cutting of trees for wood production is not allowed in the area reserved for conservation.

We got a glimpse of the operations in the wood production forests, as well as some management practices in conservation forests.

In the production forest, complete operations normally involve three machines/equipment and three people at a time: one for cutting the trees into desired length, a truck for transporting the wood (which is positioned almost parallel with the machine that cuts the tree), and another for replanting. A seedling is planted within a certain distance of the tree that was cut, immediately after cutting. Apparently, the distance between trees is wide enough for a truck to pass without hitting a tree.

In areas reserved for ecological conservation, even dead trees are not cut. These are left standing, until the time they fall naturally. After they fall, these trees are not removed either, but are left there to rot because there are certain organisms (usually birds and insects) that use the trees as their shelter. Thus,

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Thesis Abstract

DISTRIBUTION OF LAND SNAILS IN MT. MALINDANG, MISAMIS OCCIDENTAL, PHILIPPINES

Honey Jane A. Calumba
 MS Environmental Science
 Mindanao State University-Iligan Institute of Technology, Iligan City

Fieldwork was conducted in Mt. Malindang range, Misamis Occidental, Philippines from January to July 2004 in five different vegetation types (mossy, montane, almaciga, dipterocarp and agroecosystem) at elevation between 980 to 2,169 meters above sea level (masl). To investigate the distribution of land snails and assess malacofaunal diversity, the study area was sampled using a combination of timed search and visual search methods.

Twenty land snails were recorded to be present in Mt. Malindang. Seven of the species collected are endemic to the Philippines, four are indigenous and two are alien species. Canonical correspondence analysis (CCA) of their local distribution in relation to environmental variables showed 79.1% variance of species abundance and distribution. Furthermore, CCA reveals that their distribution is most strongly related to vegetation type and altitude. The unexplained variance is probably related to a range of other abiotic, biotic, stochastic and scale factors.

The 20 species of land snails are not uniformly distributed in the study area, indicating occurrence of ecological specialists. Majority of the snails were found to be localized with low level of abundance. Fourteen species were confined to one vegetation type while six species were found widely dispersed in different vegetation types. Species diversity, richness and endemism were found widely dispersed in different vegetation types. Species diversity, richness and endemism were found to be high in the montane forest. Results imply that special conservation of this habitat is necessary for retention of the broadest molluscan diversity. The absence of live individuals of one rare Mt. Malindang endemic species *Amphidromus malindangensis* and the presence of a large number of empty shells of the Philippine endemic *Helicostyla cryptica* further suggest that conservation of the entire Mt. Malindang forest is very important for molluscan conservation.



Amphidromus malindangensis

Philippine endemic snails



Hemiglypta webbi



Cylophorus reevie



Chloraea psittacina



Helicostyla simplex



Hemiplecta globosa



Helicostyla cryptica

Thesis Abstract

LICHEN FLORA OF MT. KALATUNGAN, BUKIDNON AND MT. MALINDANG, MISAMIS OCCIDENTAL

Lynnette A. Ejem

PhD Biology

Central Mindanao University, Musuan, Bukidnon

An inventory of the lichen flora was conducted in four selected sites in Mindanao, namely: Mt. Luway (Montane Forest) and Mt. Maypayag (Mossy Forest) of Mt. Kalatungan Range, Pangantucan, Bukidnon; Ulohan sa Dapitan (Montane Forest) and North Peak (Mossy Forest) of Mt. Malindang Range, Misamis Occidental. Field collections of the lichens were done through the alpha taxonomic method. Taxonomic keys were prepared to identify the genera and species of lichens. Results of the inventory in the four study sites revealed a total of 123 species, 53 genera and 32 families of lichens.

Taxonomic characters of each species such as growth forms (crustose, foliose, fruticose), mode of branching, color, texture, size, shape, thickness of thallus, rhizines, apothecia, isidia, soralia or soredia, perithecia and pycnidia were used to identify and classify the lichens.

The species diversity between study sites showed that Mt. Maypayag and Mt. Luway have higher species composition and species similarity indices than those of North Peak and Ulohan sa Dapitan. Species richness is highest in Mt. Maypayag among the study sites. Statistical analysis revealed that the difference in the lichen composition between Mt. Maypayag and other study sites is highly significant.

Assessment of lichens revealed that two of the species studied, *Cetrellopsis rhytidocarpa* and

Nephromopsis nephromoides are new records in the Philippines while one of the species, *Malcomiella* sp. could possibly be new to science. Local assessment showed 55% of the lichens are common species and 45% are considered rare.

The presence of sensitive lichens such as species of *Lobaria*, *Leptogium*, *Pertusaria*, *Pseudocyphellari*, *Pyrenula* and *Usnea* in the study sites would indicate that the forests are free of air pollution and are still in good condition. On the other hand, the presence of tolerant lichens such as *Graphis elegans*, *Graphis scripta*, *Lecanora expallens*, *Licidella elaeochroma*, *Amandinea punctata* (acid and nitrogen tolerant species) would indicate that the forests in the study sites are probably undergoing environmental changes.

Some species of lichens were observed to grow in a wide or narrow altitudinal range while others are only growing in higher altitudes. A greater percentage of the lichen species were found inhabiting from an altitude of 1,500-2,000 masl and more of the lichens in the study sites are corticolous species (grow on bark).

Mt. Maypayag obtained the highest lichen cover among the study sites, followed by Mt. Luway, North Peak, and Ulohan sa Dapitan with the least lichen cover. The existence of some species in restricted habitats such as the lichens that dominate as epiphytes on tree trunks and bark, on decaying logs, those associated with mosses and grow on rocks would indicate high diversity in terms of habitat distribution. Moreover, some lichens that are sensitive to changes in the atmosphere and microclimate conditions could provide valuable information as environmental bioindicators.

SAMU'T-SARI is the official publication of the BRP. Its name was derived from the Pilipino term for biodiversity which is "samu't-saring uri ng buhay." *Samu't-sari* means variety.

Editor:
Dr. Mariliza V. Ticsay
Assistant Editor:
Ms. Carina S. Fule
Contributor:
Ms. Gerlie D. Rivera
Layout:
Ms. Carina S. Fule
Adviser:
Dr. Gil C. Saguiguit, Jr.

BRP: Research for Development

The Philippine-Netherlands Biodiversity programme is at the crossroad of a set of paradigms in how to conduct a kind of research which directly applies to issues in development as well as how to bring about an effective research collaboration between cultures and disciplines, to the paradigm of sustainable development as well as the paradigm on how to link biodiversity with poverty alleviation and environmental protection. In such a crucial crossroad, the findings from this research which has run its course for slightly over five years is important not only locally but also nationally, regionally and globally. The answer to my original question of whether this type of research for development can be achieved is a general yes, but we must have more examples that can demonstrate this strongly. What it will need is the attitude and commitment from all of us to make this happen as we are running out of time in the race between the need of an increasing population against a rapidly deteriorating support system which is leading humankind to a pathway of unprecedented difficulties.

Excerpt from Dr. Percy E. Sajise's Keynote Paper presented at the Conference "Towards a Regional Cooperation on Biodiversity Research for Development" 28 November 2005, Metro Manila, Philippines